Time -

Let the no of boxes be 10(0 to 9) each time and in total n elements

Firstly we have to insert the elements into the boxes so now as all the elements might have mapped to same box so in worst case for a insertion you have to surpass n-1 before thus o(n^2) this step

Now we are taking each such box where one have at worst n elements so the worst case to sort them will be n logn

Otherwise the things can be divided among the boxes and one cannot have more than one strings so if each of them m1,m2,..Mn thus to sort them it will be m1logm1,.... So we will have some 10*(nlogn) if we see it trough a bigger picture

We push all the lists into a array thus we will have o(n) time and a 10 multiple of it in worst case

Thus it would be O(n^2) + O(B.nlogn)(This B and n depened on how many boxes are there having elements and how many elements are there in a particular box) + o(n) finally or i mean max of these 3

Space -

o(maxnoofdigits * n^2) space as we are maintaining array of lists and we make array list each time(How many ?? - The max no of digit times in worst case)